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CHESTNUT RUN PLAZA
WILMINGTON, DELAWARE
RCRA FACILITY ASSESSMENT
CASE #3HW51

JUNE 1991

PREPARED BY:

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INTRODUCTION

As requested by the U.S. Environmental Protection Agency (EPA) Region III and the Delaware Department of Natural Resources and Environmental Control (DNREC), E. I. du Pont de Nemours & Company (Du Pont) submits this document to identify all potential solid waste management units (SWMUs) at the Chestnut Run Plaza facility. Du Pont understands that the identification of SWMUs is a requirement of the Hazardous and Solid Waste Amendments of 1984 (HSWA) permitting process.

The scope of work required to generate this document included complete search of corporate, site and building files, interviewing site personnel involved in waste management and environmental issues, and visually inspecting all buildings and property. In the course of this investigation, Du Pont has identified sixteen potential solid waste management units. However, this is not an admission that any environmental impact may have resulted from the operation of Chestnut Run. These sixteen potential units were identified because they fit the current regulatory definition of a SWMU; a unit which managed solid waste or has had routine and systematic releases. However, Du Pont would like to identify many of the discussed areas which have extremely low potential to impact the environment as **Areas Of Concern**, rather than SWMU.

In general, Chestnut Run has an extremely low potential to have, or will have, impacted the environment. The vast majority of wastes managed at the site are low volume, low toxicity materials, most of which are non-regulated solids. In addition, Chestnut Run has many formal mechanisms to properly manage waste in order to further protect human health and the environment. Therefore, it is unlikely that any contamination will be found at Chestnut Run.

SITE DESCRIPTION AND HISTORY

Du Pont owns and operates the multi-departmental research facility known as the Du Pont Chestnut Run Plaza, which employs approximately 3200 people. This facility is located along Route 141 and Lancaster Pike, in Wilmington, Delaware. The site consists of 19 buildings on approximately 240 acres. Eight of these buildings are exclusively used as office space and have no associated waste management units, therefore, they are not addressed in this document. The area immediately surrounding Chestnut Run Plaza consists of moderately populated residential communities, with some industrial office complexes. The facility landlord is the Du Pont Materials, Logistics and Services.

Chestnut Run was developed from farmland in 1952. Site activities include offices, product-research development, product testing, product end-use research and customer service. Departments represented at Chestnut Run include Fibers, Imaging, Chemicals, Polymers, and the former Electronics Department. Chestnut Run is defined by the Standardized Industrial Code (SIC) of 8734: engineering and management services, testing labs. The facility has never operated as a production or waste disposal site.

The Du Pont Fibers Department currently occupies three buildings: Buildings 701, 702 and 715. Buildings 701 and 702 were built in the mid-1950's, housing the Fibers and Composites Development Center (FCDC), a technical support center. FCDC activities include product application research, product candidate evaluation, product value adding and customer support in the areas of textiles, industrial fibers, composites and flooring systems.

Building 715 was built in 1962 by the former Industrial and Biochemical Department, as a development laboratory for molding/casting cores. In the 1970's, The Electrochemicals Department acquired the building for the research of various plating operations, including gold leaf plating, electronics plating,

photo products etching, and electronics etching. In January 1991, the Fibers Department acquired Building 715 for an expansion of the Fibers and Composites Development Center.

The Polymers Department occupies four buildings at Chestnut Run. They include half of Building 711, Building 712, 713 and 714. Activities at these buildings are centered around thermoplastics research and development. Building 711, built in 1955, has three areas of focus: thermoplastics milling operations; a physical testing center and a latex laboratory that formulates and tests mixtures of latex dispersions.

Between 1954 and 1975, Building 712 was the technical support center for cellophane, a film product. In 1975 the cellophane operations moved to Building 713, where it remained until 1984, when it was discontinued. Both Building 712 and 713 currently used for polymer packaging development, plastic and Teflon® molding and extrusion, and product testing.

The other half of Building 711 is the Freon® customer service center, operated by the Chemicals Department. Activities include analysis of Freon® and Freon®-alternatives, and the research and development of refrigerant products, aerosols and foams.

Building 709 is currently occupied by two business groups: Chemicals and Phillips Du Pont Optical (PDO). The building was built in 1958 by the former Electrochemical Department. In the early sixties, part of the facility was devoted toward pigment research, including paints and Lucite paints. Later, Industrial Chemicals joined Pigments, and the Electrochemical operations were phased out by 1981. Polymer Products briefly acquired half of the facility, which in 1984 became the Phillips Du Pont Optical research laboratory, a joint venture with the Dutch-based Phillips Company. PDO activities involve research and development of optical disks used for information systems.

The Chemicals Department side of Building 709 is used as a research, development and customer service center. Activities include research on titanium dioxide pigments in paints and thermoplastics, and the development of urethane and terathane.

Building 708 was built in 1968 as a facility for research, development and customer service for Imaging, Medical, Electronics and D-SIMI business. Products and processes of interest include silver halide technology for photographic film, photographic processing solutions; printing plates and printing plate solution development; and pre-press proofing.

Buildings 717 and 718 are operated by Materials, Logistics, and Services Department. Building 717 was built in the early 1960's by the transportation group. It was acquired by the Engineering Department in 1981, and is currently owend by MLS. The building serves as the site maintenance shop. Activities include maintenance, fabrication and repair of equipment and machinery, welding, and sheet metal milling. Behind Building 717 is the groundskeeper's shed, which stores the landscaping equipment. Building 718 is the cnetral shipping, receiving and storehouse for the entire site. Built in 1959, the main activities include shipping products to customers, receiving 85-90% of material which come onto the site, as well as the storage and distribution of these materials. Building 718 also administers the site's RCRA permitted storage pad, non-hazardous waste storage area, and scrap metal yard.

PHYSICAL AND GEOLOGIC SETTING

The Chestnut Run is located on gently sloping (from north to south) terrain that is drained by three streams: the east- and west- branches of the Chestnut Run creek, and the Willow Run creek. Willow

Run creek is diverted into a buried culvert for most of its course across the site. The west branch of Chestnut Run creek was impounded by a dam in 1957, and forms the two ponds.

The site is located near the landward edge of the Atlantic Coastal Plain, a wedge of unconsolidated clays, silts, sands and gravels that parallels the Atlantic coast and thickens toward the sea. Pre-construction soil borings show that at the site, this alluvium ranges from 3 to 25 feet thick and consists of layers clay and silt and some fine sand. The alluvium is underlain by disintegrated bedrock, predominantly micaceous gabbro.

The soils found at the site are classified by the Soil Conservation Service as B, C and D soils. The soil types are mainly loams, silt loams and sandy loams. Depth to groundwater is approximately 25 to 30-ft.

WASTE GENERATION AND MANAGEMENT

Throughout the operational history of Chestnut Run Plaza, no waste material has ever been disposed on-site. The wastes generated on-site are the result of product development. Wastes are generated in small, irregular batches consisting of small packages of discarded laboratory chemicals, small sample mixes, excess and spent batches used in machine applications and discarded test products. Most of the site chemical wastes are innocuous and non-hazardous, as they stem from activities relating to finished products in the consumer trade. The hazardous wastes are principally organic spent solvents from non-specific sources, plus various characteristic wastes and lab-packs.

Wastes are stored and shipped for the most part in bung and open-top 55-gallon steel drums. Occasionally, smaller lots of specialized wastes are shipped in small cartons or less than 55-gallon steel or fiber drums. Small containers (less than 5-gallons) are overwrapped as lab-packs in compatible chemical groupings.

Chestnut Run generated approximately 311,000 lbs. of hazardous waste in 1987; 266,500 lbs. in 1988, and 92,430 lbs. in 1989. The downward trend in generated waste is a result of more efficient management of lab chemicals in conjunctions with the corporate waste minimization program.

PERMITTED WASTE MANAGEMENT UNITS

Chestnut Run is a hazardous waste generator and storage facility under the EPA identification number of DED003930799. The facility operates a storage pad under a RCRA Part B Permit, which allows for the storage of up to 175 55-gallon drums of hazardous waste. This pad stores wastes prior to off-site disposal. The permit requires specific design and operational controls which prevent any release to the environment. In addition, closure of the permitted drum storage pad requires a comprehensive investigation to ensure that no potential for release exists after closure. Therefore, no further action is recommended regarding this unit, since it will be managed under another program.

The six 90-day waste accumulation areas operate in conjunction with the RCRA Part B permitted drum storage pad. Each area is used for the temporary accumulation of hazardous wastes into a 55-gallon drum. Once filled, this drum is removed to the permitted drum storage pad for storage prior to off-site disposal. There have never been any releases to the environment from any of these accumulation areas, as is documented in the site-wide spill report log. Each accumulation area is visually inspected each week and managed in a manner such that no releases to the environment are expected to occur.

In addition to the 90-day waste accumulation areas, Chestnut Run currently operates two separate satellite accumulation points. The Building 717, site garage area, has a satellite accumulation area which is used to collect spent solvents used in degreasing of mechanical parts and equipment. the other satellite accumulation area is inside Building 708, and is used to collect waste solvents from the Cyrel process. In both satellite accumulation areas, all appropriate regulatory and waste management procedures are followed. Both areas are well contained, and have had no releases. Once a drum is filled, is it moved to the site's permitted storage pad, prior to off-site disposal. Since no environmental impact from the operation of these units is expected, neither has been addressed as SWMU.

Prior to the RCRA Part B permitted storage pad, Chestnut Run operated an interim status (RCRA Part A permit) drum pad. This interim pad has undergone closure per its operating permit, which proved that the operation of the interim pad had not impacted the environment. DNREC certification of the closure is still pending. Since this unit is being managed under another RCRA program, it would be not subject to Corrective Action.

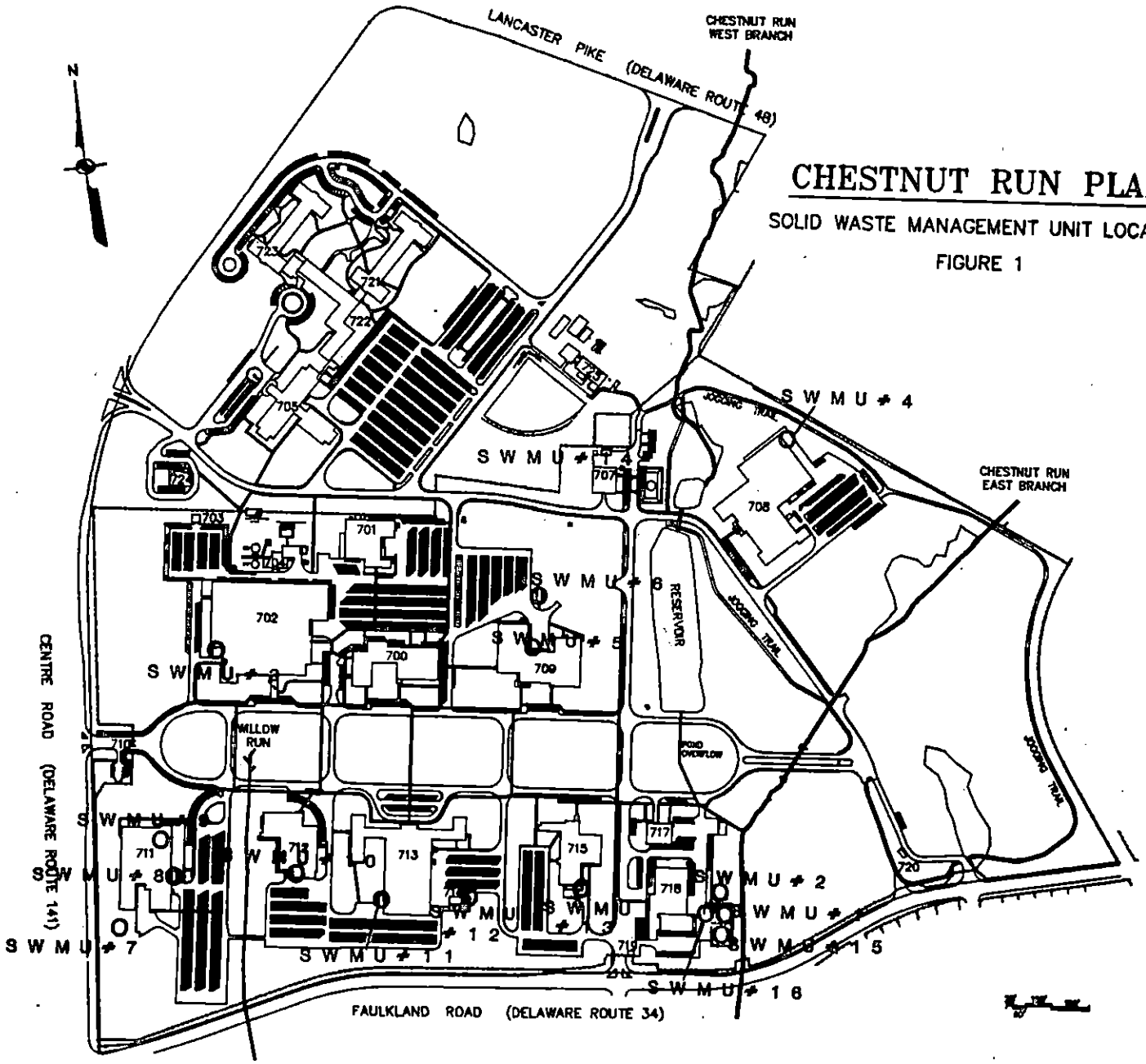
For wastewater management, the site operates under an NPDES discharge permit, with outfalls 001 (Chestnut Run creek), 002 (Willow Run creek), and 003 (in front of Building 707). The discharges include stormwater run-off, steam and humidity condensate, non-contact cooling water, lawn irrigation run-off, and other non-regulated activities. Chestnut Run performs a variety of analytical testing at these outfalls, including BOD, TSS, pH, temperature, bioassay, chronic and toxic compounds. These outfalls are regulated under the Clean Water Act (CWA), therefore, will not be addressed under this program.

The site also operates under a New Castle County Sanitary Sewer Permit, with discharge points identified as 010 CTC and 011 Main. The discharge includes sanitary waste, process wastewater, and boiler and cooling towers water. Building 702, Building 708, and Building 717 all monitor pH of the wastewater. Discharges are sampled quarterly for metals, pH, TSS, NH3, BOD, cyanide, and phenolics. These discharges are regulated under the Clean Water Act (CWA), therefore, will not be addressed under this program.

The site has 11 air discharge permits for process vents and boilers, and an additional 75 air discharge exemptions. The majority of discharge exemptions are for lab hoods and small scale process vents. All of these discharges are regulated under the Clean Air Act (CAA), therefore, they will not be addressed under this program.

POTENTIAL SOLID WASTE MANAGEMENT UNITS (SWMUs)
CHESTNUT RUN PLAZA
Table 1. Summary of Potential Solid Waste Management Units

1. RCRA Permitted Hazardous Waste Storage Pad
2. RCRA Interim Status Hazardous Waste Storage Area (closed)
3. Building 702 Non-Hazardous Waste Storage Area
4. Building 708 90-Day Waste Accumulation Area
5. Building 709 90-Day Waste Accumulation Area
6. Building 709 Temporary Waste Storage Area (concrete pad)
7. Building 711(E) 90-Day Waste Accumulation Area
8. Building 711(F) 90-Day Waste Accumulation Area
9. Building 711E Crawlspace
10. Building 712 Solvent Storage & 90-Day Waste Accumulation
11. Building 713 Non-Hazardous Waste Oil Storage Area
12. Building 714 Non-Hazardous Waste Storage Area
13. Building 715 90-Day Waste Accumulation Area
14. Fuel Oil Tank Truck Unloading Spot
15. Scrap Metal Storage Area
16. Non-Hazardous Waste Storage Area



CHESTNUT RUN PLAZA

SOLID WASTE MANAGEMENT UNIT LOCATIONS

FIGURE 1

POTENTIAL SWMU #1

UNIT NAME: RCRA Permitted Hazardous Waste Storage Pad

LOCATION: Behind Building 718

DESCRIPTION AND HISTORY: Chestnut Run currently operates a hazardous waste drum storage area under a RCRA Part B permit. This permitted storage pad has been in use since the Part B permit was issued in September 1984, when it replaced the interim status storage pad. The permitted storage pad is a 50' by 40' concrete pad permitted to manage 175 standard 55-gallon drums. It is surrounded by a 6" high concrete curb, 1' wide, except for the 10' wide, sloped entrance. Potential spills or releases within the pad would be contained by the double concrete trench system, 12" wide by 18" deep, across the centerline, with both halves of the permitted storage pad are sloped toward these trenches. This trench system avoids any standing liquids from coming in contact with the drums.

The 10' sloped entrance to the pad also has a connecting section of the containment trench. Run-on from the adjacent road way is prevented by the perimeter curb plus a 6 inch up-slope at the entrance. The cross-trench also serves as a backup for run-on prevention.

In the unlikely event of a release within the permitted storage pad, the trench would capture and contain all material. A manual pump would be used to pump out any collected liquids into a drum, with the drummed cleanup material then discarded as a hazardous waste. A manually operated discharge valve at the rear of the trench system allows for the discharge of precipitation after verification of composition. However, since the permitted storage pad is covered, stormwater rarely accumulates on the pad.

POTENTIAL AND HISTORY OF RELEASES: Because of the containment systems, the operating practices for handling wastes and the routine inspections, there is no potential for release from the permitted storage pad. No release from this pad to the environment has been documented in the weekly inspection reports or the site-wide spill log.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "**Area of Concern**" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation. Additionally, the investigation and remediation of any potential release would be managed under the RCRA closure plan for this pad. Any releases during the operation the pad are also covered under the RCRA permit.

STATUS: Active, and currently operating under a RCRA Part B permit.

POTENTIAL SWMU #2

UNIT NAME: RCRA Interim Status Hazardous Waste Storage Area

LOCATION: Adjacent to permitted storage pad behind Building 718

UNIT DESCRIPTION AND HISTORY: Previous to the construction and permitting of the permitted storage pad, Chestnut Run operated a hazardous waste drum storage pad under a RCRA interim, or Part A, permit (the A-pad). The A-pad consisted of an 75' x 30' asphalt area and adjacent 30' x 30' concrete pad with curbing. The A-pad was in service between 1980 and 1984. It originally had a capacity of 272 drums. Sometime around 1982 the use of the asphalt part of the A-pad for waste storage terminated, and the concrete curbed pad became the only section used. The use of the interim pad for hazardous waste management was discontinued in 1984, when Chestnut Run received a RCRA Part B permit to operate the permitted storage pad (SWMU #1).

The A-pad closure requirements included removal of all containers or hazardous wastes, remediation of any residuals, decontamination of surfaces if needed, based on examination or data obtained, and certification of closure by a Professional Engineer. At the time when the A-pad ceased hazardous waste storage, all of the closure requirements except for the certification were completed. In 1989, Du Pont became aware of this omission, and obtained a certified closure from a Professional Engineer, based on rinsate and soil samples. Analysis of the rinsate and soil samples showed no contamination. A Professional Engineer (Lee Beetschen of Cabe Associates, Inc., Dover, DE) certified the closure of the interim status pad. This certification was provided to DNREC April 9, 1990, and is currently under review, pending DNREC approval.

POTENTIAL FOR RELEASE: There is no potential for release, since this pad is no longer used for hazardous waste management. Additionally, the recent soil and rinsate samples proved that there has been no impact to the environment as a result of the past operation of the A-pad.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "Area of Concern" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Pending certification of RCRA closure by DNREC

POTENTIAL SWMU #3

UNIT NAME: Building 702 Non-Hazardous Waste Storage Area

LOCATION: South wall of Building 702, west wing

UNIT DESCRIPTION AND HISTORY: This chemical storage area has been in service since 1977. It stores and distributes the small quantities of lab chemicals used by the Fibers and Composites Development Center (FCDC), Buildings 701 and 702. Additionally, this area is used for the accumulation of various non-regulated solids (carpet fibers, textile swaths, and scrap Kevlar) and waste oils. Old lab chemicals are repackaged for disposal in lab-packs in this area, and is disposed directly from this location. No hazardous wastes are stored in this area, since these chemicals are not classified as wastes until placed in the lab packs (ie: discarded). This area is not one of the 90-day waste accumulation areas, since it does not store hazardous wastes.

The storage area is a 36' by 24' cement pad with a roof and chain link fence and locked gate. One side of the area backs to the building. The area is contained and divided into three sections by concrete diking. The first segment contains shelves for lab chemicals, mostly small containers ranging from less than 1/2 pint to 1-2 gallons. The maximum amount of material in this segment of the pad is approximately 25 gallons. These chemicals are separated according to their physical properties.

The other two segments of the pad hold 55-gallon drums of non-regulated waste oils, non-regulated waste solids (ie: Teflon®, fibers, and plastic), and virgin acetone (for distribution). Empty drums are temporarily stored in this area for future used in lab packs and waste oil accumulation.

The old lab chemicals are periodically collected and re-packaged as lab pack by Chemical Waste Management, Inc.. Once the lab-pack is generated, it is moved to the permitted storage pad, and then to off-site disposal. The waste oils are also sent to the permitted storage pad prior to off-site disposed. The solids are sent directly to an industrial landfill for disposal.

POTENTIAL FOR RELEASE: The concrete dikes separating each segment of the pad have a 58-gallon secondary containment capacity, 110% the volume of one drum. Each diked segment has a drain with a manually operated valve which is kept in the closed position. These drains lead to a sump within the pad, where, in the unlikely event of a spill, a container can be placed to collect the released material.

HISTORY OF SPILLS: On March 21, 1989 1/2 gallon of a mixture of acetone, ethanol and n-methylpyrrolidone spilled onto the pad and was contained within the diked area. The material was then cleaned up, and disposed with the other non-hazardous wastes. This secondary containment system adequately contains any spill, and prevents environmental impact.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a

release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "Area of Concern" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Active

POTENTIAL SWMU #4

UNIT NAME: Building 708 90-Day Waste Accumulation Area

LOCATION: North side of Building 708

UNIT DESCRIPTION AND HISTORY: The unit is an 90-day hazardous waste accumulation area for Building 708, Imaging Department. It consists of a concrete pad enclosed on three sides by corrugated metal walls, and a 6' chain-link fence across the front. The area is also covered by a metal roof.

This area manages printing ink wastes, waste Isopar-G® and carbon particles (printing toner), and two kinds of spent flexographic printing plate solvent. One of the printing plate wastes is Optisol® solvent waste resulting from the filtration of the solvent to remove synthetic rubber, nonyl acetates, benzyl alcohol, methacrylates/acrylates and substituted benzoin. The second waste stream from the printing plate process area is spent Perc-n-Butyl® solvent, which is being phased out of use. This waste consists primarily of perchloroethylene, N- butanol, synthetic rubber and methacrylates/acrylates.

Approximate annual amounts of these wastes managed are: 100 gallons of printing ink waste; 150 gallons of waste toner, 200 gallons of Perc-n-Butyl® waste, and 150 gallons of Optisol solvent recovery wastes. Wastes are sent to the site's permitted storage pad, prior to off-site disposal.

POTENTIAL FOR RELEASE: The secondary containment system has the capacity to contain all the wastes handled at the unit. The pad is enclosed at the rear and two sides by an 8" concrete dike. The concrete floor slopes toward a trench covered with a metal grate that drains to a 200-gallon concrete sump with no outlet. The roof protects the pad from rainwater. There have been no spills at the unit based on the weekly visual inspections of the pad and the site-wide spill reporting log.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "**Area of Concern**" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Active

POTENTIAL SWMU #5

UNIT NAME: Building 709 90-Day Waste Accumulation Area

LOCATION: Loading dock behind Building 709

UNIT DESCRIPTION AND HISTORY: The loading dock off Building 709, primarily used for receiving and shipping, has a small area that is used for 90-day hazardous waste accumulation, as well as solvent storage and disbursal. The dock consists of a concrete deck elevated 4 feet above the surface of the driveway, and is covered by a metal roof. There are no floor drains in the area.

The Chemicals Department and Phillips DuPont Optical (PDO), share the building as well as the use of the loading dock and 90-day waste accumulation area. The Chemicals Department maintains one 55-gallon drum for the 90 day accumulation of waste ethyl acetate. Becauses of the crowded conditions on the loading dock, when a drum is full, it is moved to the nearby concrete storage pad, about 100 feet from the loading dock, prior to removal to the site permitted storage pad. Approximately 1500 gallons of waste ethyl acetate is generated annually.

PDO maintains two 55-gallon drums, one for waste halogenated solvents and one for waste non-halogenated solvents. The waste halogenate solvents consist mainly of methylene chloride and Freon®. The waste non-halogenated solvents contain acetone, n-methyl pyrrolidone, methanol, ethanol, n-butanol, isopropanol, methyl ethyl ketone, methylisobutyl ketone, diacetone alcohol and toluene. The solvent waste is generated from operations involving research and development of optical disks; primarily from disk degreasing and equipment cleaning. Approximately 350 gallons of waste halogenated solvents and less than 100 gallons of waste nonhalogenated solvents are generated annually. During the 90-day accumulation period, or when a drum is full, whichever comes first, the drum is moved to the site's permitted storage pad prior to off-site disposal. PDO does not utilize the nearby concrete pad.

In area adjacent to the waste accumulation area, the Chemicals Department stores raw chemicals and solvents including xylene, ethyl acetate and mineral spirits.

POTENTIAL FOR RELEASE: The concrete floor and roof provide spill control for the pad. There is an emergency spill control kit and several empty drums for recovery or containment in the event of a leaking drum. The ground adjacent to the pad is the paved truck unloading area, which would provide additional release control. The area does not have any drains.

HISTORY OF SPILLS: On November 28, 1986 approximately 10 gallons of non-halogenated waste solvent spilled onto the loading dock through a leaky gasket around the bung plug of a 55-gallon drum. The spill was contained, cleaned, and the leaking drum was put into a recovery drum. The spill did not contact soil, so there was no impact to the environment.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an 'Area of Concern" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Active

POTENTIAL SWMU #6

UNIT NAME: Building 709 Temporary Waste Storage Area (concrete pad)

LOCATION: 100' off the Building 709 loading dock

UNIT DESCRIPTION AND HISTORY: This storage pad is a 20' by 30' concrete pad, built in the 1970's as a test pad for a concrete study. In 1988, it was replaced. It is now used to store clean test equipment used in mill trials at various customer locations. This equipment is cleaned at the customer's site before storage at Building 709. In addition, when the Chemicals Department at Building 709 has filled a drum at their 90-day hazardous waste accumualtion area (SWMU #5), they move the drum over to this concrete pad for temporary storage, prior to shipment to the site permitted storage pad. The pad stores only waste ethyl acetate for very short periods of time. Additionally, the pad was once used in 1985 to repackage drums. This storage pad is not one of the site's 90-day waste accumulation areas.

POTENTIAL FOR RELEASE: The storage pad has little potential for release. The concrete floor provides spill control and is in good condition.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "Area of Concern" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Active

POTENTIAL SWMU #8

UNIT NAME: Building 711(F) 90-Day Waste Accumulation Area

LOCATION: Southwest corner of Building 711, Chemicals wing

DESCRIPTION AND HISTORY: This 90-day waste accumulation area is a concrete pad outside of Building 711F that is used for raw solvent storage and hazardous waste accumulation. The pad is 25' by 10', and is enclosed in a metal mesh fence on three sides and the brick wall of the building on the fourth side. The pad has a fiberglass roof and a concrete floor that slopes to an 8" containment dike. The dike has a plugged drain. Once manually unplugged it drains into the sewer system.

Wastes are accumulated in three 55-gallon drums. One drum contains waste halogenated solvents, mostly Freon®. One drum contains non-halogenated solvents, and the third contains non-hazardous waste oils, which are mainly refrigeration and heat transfer oils. Approximately 840 gallons of waste halogenated solvents, about 1600 gallons of waste oils, and less than 100 gallons of waste halogenated solvents are managed annually at this pad.

Raw solvents stored on the pad include various halogenated solvents such as Freon®, 1,2 dichloroethylene, dichlorofluoroethane and others. The pad holds about fifteen 55-gallon drums of solvents, as well as two shelves with 5-gallon containers of solvents.

POTENTIAL FOR RELEASE: The dike containment system would adequately contain a spill from either the waste storage or chemical storage areas. The manually operated drain plug remains in place, preventing release to the sewer system. However, when rainwater gets into the diked area, it is possible to remove the drain plug to discharge stormwater into the sewer.

FURTHER ACTION: Based on the weekly inspection and site-wide spill reporting log, this pad has had no record of releases, and has caused no impact on the environment. Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "**Area of Concern**" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Active

POTENTIAL SWMU #7

UNIT NAME: Building 711(E) 90 Day Waste Accumulation Area

LOCATION: 30' south of the west wing of Building 711

UNIT DESCRIPTION AND HISTORY: For the past 15 years, the Polymers Department has operated a 90 day hazardous waste accumulation area behind Building 711E. The 80' by 30' pad is enclosed by a metal wall and chain-link fence. It has a concrete floor and a metal roof.

There are four drums for waste accumulation: one for spent organic solvents, one for spent halogenated solvents, and two for non-regulated waste oils. Less than 100 gallons each of organic solvents and halogenated solvents, and about 1000 gallons of waste oils are managed annually at this pad.

In addition to the drums, small quantities of lab chemicals are managed in this area. Periodically, Chemical Waste Management, under contract with the site, packs these lab chemicals (approximately 55 gallons annually) into lab-packs, and transports them to the site's permitted storage pad prior to off-site disposal. These lab chemicals are not classified as hazardous wastes until they are packaged into the lab-packs (ie: point of waste generation).

The pad is also used for storage of raw chemicals, solvents and oils, and for storage of empty drums.

POTENTIAL FOR RELEASE: The portion of the pad in which the waste drums, lab-pack wastes and virgin solvents and oils are stored is enclosed by a 8" concrete dike. The concrete floor slopes toward one end of the diked area, where there is a floor trench that drains to a 400 gallon concrete sump with no outlet. The containment system has the capacity to contain over 110% of the wastes that accumulate at the unit. Because of this secondary containment system, this unit has no potential for release to the environment.

FURTHER ACTION: Based on the weekly inspections and site-wide spill reporting log, there have been no releases, spills or any kind of impact to the environment from this unit. Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "**Area of Concern**" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Active

POTENTIAL SWMU #9

UNIT NAME: Building 711(E) Crawlspace

LOCATION: Crawlspace beneath Building 711, Elastomers side

DESCRIPTION AND HISTORY: The crawlspace beneath Building 711, located beneath the Milling Room and the Polymer Development Area, provide access for servicing the overhead milling machinery, utilities, and water lines. In February 1990, during an asbestos abatement project of the piping, the stone aggregate and loose dirt from the floor of the crawlspace was removed, revealing oil staining of the soil the crawlspace below the Milling Room. The oil presumably came from leaking from the overhead milling machinery. These machines use oil as a heat transfer fluid for hot roll milling work. There have been milling operations in Building 711 since 1955.

A soil investigation conducted in February 1991 revealed localized areas of soil discoloration to a maximum depth of 5 feet in the crawlspace. Taking the Du Pont proactive stance towards environmental issues, Chestnut Run initiated soil sampling. The results of this analysis results show Total Petroleum Hydrocarbon (TPH) contamination as high as 38,000 ppm. Chestnut Run has begun additional investigation (4 soil borings around the building perimeter) to determine if the oil has migrated.

In addition to the TPH, the soil contains elevated levels of asbestos, resulting from the piping insultation. Therefore, in order to prevent the release of airborn asbestos fibers, as well as protect the crawlspace soil from further oil leakage, the entire crawlspace will be concreted in order to encapsulate the asbestos. Estimated projected date is June 1991.

POTENTIAL AND HISTORY OF RELEASES: The oil in the crawlspace is limited to a small area directly beneath the dripping machinery. The oil is highly immobile because the building prevents any percolation of rainwater from carrying the oil deeper into the soil. Also, petroleum hydrocarbons naturally biodegrade. Therefore, the environmental impact from this release is minimal.

FURTHER ACTION: Taking a proactive stance, Chestnut Run plans to investigate further, by drilling soil borings around the perimeter of the building to determine if the oil has migrated. The floor of the crawlspace will be cemented to encapsulate the asbestos and to elminate the potential for further releases. Cementing the crawlspace floor will also retard potential migration of the oil, by eleminating the chance of water percolating through the impacted soil.

STATUS: Active, and currently under investigation.

POTENTIAL SWMU #10

UNIT NAME: Building 712 Solvent Storage & 90-Day Waste Accumulation Area

LOCATION: Inside Building 712 on the south side, adjacent to the shipping area

UNIT DESCRIPTION AND HISTORY: This area has been used for 15 years as a storage facility for virgin and waste solvent storage. The unit is a 9' by 12' enclosed storage room within Building 712, designed to store flammable liquids and waste solvents. It is on the the site's 90-day hazardous waste accumulation areas.

The unit manages spent chlorinated and non-halogenated solvents. The wastes are generated in small batches during thermoplastic research, development and testing. Approximately 120 gallons of spent chlorinated solvents and less than 25 gallons of non-halogenated solvents are handled annually. Once waste solvents are accumulated for up to 90-days, they area sent to the site permitted storage pad prior to off-site disposal.

There are a variety of virgin organic solvents stored at this facility, including toluene, isopropyl alcohol, acetone, propanol, DMSO, and a variety of others. The solvents are stored in containers ranging in size from less than 1 liter up to 5 gallons. The maximum quantity of solvents on hand at one time is about 150 gallons.

POTENTIAL FOR RELEASE: The secondary containment system would contain a release. The floor of the shed slopes to a floor drain which leads to two 55-gallon drums located in a cement-floored crawlspace beneath the loading dock, just outside of this waste management room. These containment drums are lying horizontally on wooden braces, and are cross-connected, so the total capacity is 110 gallons. The cement floor is in very good condition and there is no evidence of any spills.

Weekly inspection records and the site spill logs indicate that this unit has had no releases or spills or any kind of environment impact.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "Area of Concern" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Active

POTENTIAL SWMU #11

UNIT NAME: Building 713 Non-Hazardous Waste Oil Storage Area

LOCATION: Loading dock, Building 713

UNIT DESCRIPTION AND HISTORY: A 28' by 5' section of the loading dock of Building 713 serves as an accumulation area for non-hazardous waste oil and raw chemical storage associated with the thermoplastics molding, extruding and testing activities. The area, protected on three sides by metal walls, is covered by a metal roof. The concrete floor of the loading dock is raised about 4' above the level of the paved truck unloading area. Behind the storage area there is a concrete gutter for stormwater run-off, which slopes down to the level of the pavement and adds further protection to the adjacent soil.

The raw materials stored in this area include gycols, heat transfer oils, hydraulic fluids and motor oil. No solvents are managed in this area. It is not one of the facility's 90-day waste accumulation areas.

POTENTIAL FOR RELEASE: The concrete floor and roof provide for spill control. There is slight evidence of oil stains on the floor, and on the concrete gutter and pavement below the dock. However, the adjacent soil shows no evidence of release. Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "**Area of Concern**" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

FURTHER ACTION: No further action is required.

STATUS: Active for non-hazardous waste management

POTENTIAL SWMU #12

UNIT NAME: Building 714 Non-Hazardous Waste Storage Area

LOCATION: Under the overhanging roof outside Building 714, east side

UNIT DESCRIPTION AND HISTORY: Building 714 serves as a small laboratory off Building 713 where plastic automotive parts are tested. There is a storage area outside of the building protected by an overhanging roof and concrete floor. From the early 1970's to 1988 a 9' by 5' section of the storage area was used for hazardous waste accumulation. Currently, the area is used only to store raw chemicals and non-hazardous waste.

Hazardous wastes that were formerly stored were halogenated non-halogenated waste solvents, waste oils and a waste formic acid polymer solution. However, all hazardous wastes are now managed at the Building 711 90-day waste accumulation area. Currently, only non-hazardous waste oil is managed at the Building 714 storage area.

POTENTIAL FOR RELEASE: The pad has a secondary containment system consisting of two 4.5' x 4.5' x 1' metal catch pans covered by a metal grate, upon which the drums of waste or raw chemical sits. The catch pans prevent any release to the environment. The concrete floor shows some staining. However, the concrete floor is in good condition.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "Area of Concern" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Active for non-hazardous waste managment.

POTENTIAL SWMU #13

UNIT NAME: Building 715 90-Day Waste Accumulation Area

LOCATION: South side of Building 715, on the loading dock adjacent to the former plating area.

UNIT DESCRIPTION AND HISTORY: The Electronics Department maintained a 90-day hazardous waste accumulation area on the loading dock off of the plating area and raw chemical storage shed. This loading dock area has a concrete floor and a roof. Wastes managed include halogenated solvents used in electronics etching operations, and other waste chemicals used in etching and plating operations such as copper, sodium hydroxide, formaldehyde, sulfuric acid, thiourea, sodium persulfate, n-butylethanol etc. In addition, filtrate from the solvent filtration process was stored in this area. The filtrate 1,1,1 trichloroethane and methylene chloride. Annual quantities of wastes managed are approximately 7000 gallons of mixed aqueous including acidic, alkaline and organic and approximately 600 gallons of halogenated solvents.

The former Electronics Department also maintained an in-line wastewater neutralization system off of the east side of the same loading dock. The neutralization tank is a 620 gallon FRP tank with a 500 gallon capacity. The tank sits in a concrete structure that is 7' by 9' by 3' deep that serves as a secondary containment vessel.

POTENTIAL FOR RELEASE: Due to concrete construction of the loading dock, secondary containment, and release control measures, the potential for release from this unit is minimal.

HISTORY OF RELEASES: On September 13, 1989, approximately 5 gallons of a 20% sulfuric acid, 4% tin sulfate solution spilled onto the roadway at the loading dock area after being struck by a forklift. The forklift operator abated the spill by containing the area with sand and neutralizing the acid with sodium bicarbonate. The spill was confined to the blacktop area, and it did not enter the sewer or contact any soil. There was no impact to the environment as a result of the incident.

On March 2, 1986, a chilled water tube ruptured inside the solvent recovery (closed loop filtration of solids from solvent) room, causing an overflow into a shallow, diked sump inside the building. The water, which was estimated to have less than 250 ppm 1,1,1 TCA, ran onto the loading dock. Vermiculite dikes were built to prevent the spill from progressing further, and 300 gallons of contaminated water were collected in drums. The spill did not reach the storm drain or contact any soil.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "Area of Concern" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Since the Fibers Department acquired Building 715 in January 1991, the waste management unit have been out of service.

POTENTIAL SWMU #14

UNIT NAME: Fuel Oil Tank Truck Unloading Spot

LOCATION: Adjacent to the Fuel Oil Tank

DESCRIPTION AND HISTORY: The truck unloading spot for the fuel oil tank at the power house consists of several pipes for the transfer of fuel oil from the trucks to the fuel tank. The area is a small concrete pad with 3' wall on three sides. The open side is adjacent to an asphalt roadway. The adjacent roadway, which includes the truck parking area, slopes down to a concrete containment trench. This trench has a manual valve, which discharges into the containment area around the aboveground fuel oil tank.

POTENTIAL AND HISTORY OF RELEASES: A release from this area is unlikely, since the trench system would capture and contain any significant releases during the unloading process. The area immediately around the pipe couplings does show visual evidence of oil resulting from dripping during transfer. However, the concrete pad, diking and trench system would prevent release to the environment.

FURTHER ACTION: Possible soil investigation for petroleum hydrocarbons around the truck spot and the discharge point for the associated trench.

STATUS: Active

POTENTIAL SWMU #15

UNIT NAME: Scrap Metal Storage Area

LOCATION: Adjacent to the RCRA Permitted Storage Area (SWMU #1)

UNIT DESCRIPTION AND HISTORY: This area is an 75' x 90' asphalt paved area, enclosed with a fence, located adjacent to the permitted storage pad behind Building 718. It has been used for waste management, mostly scrap metal storage, since the 1960's. Materials managed in this area include new and clean metal drums, construction equipment, lumber, the scrap metal dumpster, and empty drums stored prior to off-site reclamation. In addition, an enclosed roll-box of asbestos and fiberglass wastes is stored in this area prior to off-site disposal. Chemical Waste Management leases a section of this area for the storage of materials used in lab-pack generation, such as drums and packaging materials. In total, up to 100 drums are located in this area at a time.

POTENTIAL FOR RELEASE: Since all materials managed in this area are solids, the potential for a release to impact the surrounding environment is minimal. The pavement is in good condition, and there is no evidence of a release.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "Area of Concern" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Active, for metal storage only.

POTENTIAL SWMU #16

UNIT NAME: Non-Hazardous Waste Storage Area

LOCATION: Adjacent to the RCRA Permitted Storage Area (SWMU #1)

UNIT DESCRIPTION AND HISTORY: Non-hazardous, solid waste is temporarily stored in the asphalted area adjacent to the permitted storage pad and scrap metal area, behind Buidling 718. It is the area outside the fenced around the scrap metal area. All waste material is containerized before it is stored at this location, and the vast majority of the non-hazardous waste is Teflon® from the Polymers Department. This area has been used for solid waste management since the 1960's.

POTENTIAL FOR RELEASE: Since most of the materials managed in this area are containerized solid, and the area is asphalt paved and in good condition, a release from this area which could impact the environment is minimal. In adddition, the area is adjacent to the permitted storage pad, and many of the management practices used at the permitted pad are also incorporated at the non-hazardous storage area, such as visual inspections, and having spill containment equipment nearby.

FURTHER ACTION: Although this unit may fit the current regulatory definition of a SWMU, the relative potential for impacting the environment as a result of operating this unit is so low as to warrent a declaration of 'no further investigation required'. This unit is designed and managed so that even if a release did occur, it would not impact the environment, but would be fully contained. Du Pont would like to call this unit an "Area of Concern" rather than a SWMU, thereby indicating that the agency also feels this unit does not warrent a remedial investigation.

STATUS: Active for non-hazardous waste storage